

**UPDATE REPORT ON ALBERTA ENVIRONMENT'S
UPSTREAM OIL AND GAS
RECLAMATION CERTIFICATE PROGRAM**

March 31, 2010

**Government
of Alberta ■**

Web Site: <http://environment.gov.ab.ca/info/>

Update Report on Alberta Environment's Upstream Oil and Gas Reclamation Certificate Program, March 31, 2010.

Any comments, questions or suggestions regarding the content of this document may be directed to:

Alberta Environment
10th Floor, Oxbridge Place
9820 – 106 Street NW
Edmonton, Alberta T5K 2J6
Fax: (780) 422-4192

Additional copies of this document may be obtained by contacting:

Information Centre
Alberta Environment
Main Floor, Oxbridge Place
9820 – 106 Street NW
Edmonton, Alberta T5K 2J6
Phone: (780) 427-2700
Fax: (780) 422-4086
Email: env.infocent@gov.ab.ca

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1. Introduction

The Province of Alberta introduced reclamation certificates in 1963 to promote reclamation of industrially disturbed private lands. The program was expanded to include public lands in 1978 and revised in 2003 to increase the province's ability to handle certificate applications while continuing to assure positive environmental outcomes. Under the current program, Alberta Environment is responsible for reclamation on private land and Alberta Sustainable Resource Development for public land. Alberta Environment oversees the development of guidelines and documentation used to administer these parallel programs. Since 1963, over 82,000 reclamation certificates have been issued in Alberta, approximately 55,000 by Alberta Environment.

For nearly 50 years, Alberta has established itself as a world leader in reclamation by meeting the challenges posed by a broad range of industrial disturbances throughout different landscapes and soil types. Over time, new research and technologies have improved construction practices, soil conservation measures and revegetation techniques leading to continually improving reclamation results. Today, reclamation results are gauged against standards or reclamation criteria that reflect these improvements and are grounded in the concept of equivalent land capability – that potential uses of the land following reclamation are similar to, but may not necessarily be the same as, that which existed prior to the industrial activity taking place.

2. Alberta's Upstream Oil and Gas Reclamation Certificate Program

Alberta's Upstream Oil and Gas Reclamation Certificate Program ensures that specified land used for oil and gas development is restored to a productive state. Part 6 of the *Environmental Protection and Enhancement Act* requires all specified land to be reclaimed and obtain a reclamation certificate. Specified land is land that is being or has been used or held for or in connection with the construction, operation or reclamation of an oil or gas well, battery, oil production site, and pipeline. The program, developed in consultation with landowners, industry and other affected stakeholders, requires all upstream oil and gas sites on private and public land to be reclaimed when a site is decommissioned.

The company that owns the well or pipeline submits an application for a reclamation certificate to Alberta Environment or Alberta Sustainable Resource Development. Each application must include environmental site assessments to determine presence or absence of contamination and a report detailing how contaminants, if identified, were remediated and a detailed site assessment illustrating how surface issues pertaining to landscape, soils, and vegetation were reclaimed. If all standards are met, the company is issued a reclamation certificate.

2.1 Program Details

Alberta's Upstream Oil and Gas Reclamation Certificate Program is designed to improve the efficiency of issuing reclamation certificates while maintaining a commitment to environmental assurance, accountability, and open communication with stakeholders.

Reclamation Certificate Applications

Reclamation certificate applications (applications) are accepted by Alberta Environment for private land or Alberta Sustainable Resource Development for public land. Applications must contain information on the status of subsurface contamination and surface assessment and show that private landowners/occupants have received copies of all documentation related to land reclamation and remediation. The application fee for a reclamation certificate application is \$700.

Routine vs. Non-Routine Applications

All applications are categorized as routine or non-routine.

Routine applications are reviewed for completeness, appropriate signatures, inclusion of required documents, and landowner complaints. Routine applications receive a reclamation certificate after passing the completeness review, while incomplete applications are refused. Applications with unresolved complaints will become non-routine.

Non-routine applications are reviewed for completeness prior to regulatory review by an inspector. The review ensures compliance with remediation guidelines and reclamation criteria. Non-routine applications that pass both completeness and regulatory reviews receive a reclamation certificate. Applications are refused if they are incomplete, inconsistent, or do not meet remediation guidelines or reclamation criteria.

Audits

In order to ensure that companies responsible for reclaiming abandoned sites have complied with all of the province's reclamation and remediation standards, Alberta Environment and Alberta Sustainable Resource Development conduct randomly selected field audits on approximately 15% of all sites that have had a reclamation certificate issued since the program changed in October 2003. Sites are eligible for audit up to three years after a reclamation certificate is issued.

Surface reclamation audits include an inspection of the soil for topsoil depth, compaction, admixing of surface soil and subsoil, and site topography. The inspector also assesses the vegetation cover, plant species compatibility with adjacent land, and inspects the site for the presence of weeds, rocks, and/or debris.

Contamination audits include soil sampling at depth using a drill truck to obtain samples from: well centers, drilling waste disposal areas, flare pits, random locations on site, as well as background samples from undisturbed areas. The samples are submitted to an environmental laboratory for analysis.

Reclamation certificates may be cancelled based on the results of an audit, or following a substantiated landowner or occupant complaint. Additional remediation and/or reclamation work will be required. If a reclamation certificate is cancelled, the operator must re-apply with a new application and fee.

Complaints

Alberta Environment and Alberta Sustainable Resource Development respond to all complaints received regarding reclamation activities on private and public land. An *Upstream Oil and Gas Facility Complaint Form* has been developed to assist landowners or occupants in filing a complaint to Alberta Environment or Alberta Sustainable Resource Development. Complaints can be submitted at any time during construction, operation, reclamation or following reclamation of a site. A substantiated complaint may lead to the cancellation of a reclamation certificate if the certificate was issued after the program change in October 2003.

Liability Period for Surface Reclamation

The industry liability period for surface reclamation issues (topography, vegetation, soil texture, drainage etc.) is 25 years and the company is required to resolve any reclamation issues that arise within the 25-year period. The liability reverts to the government after the industry liability period has expired.

Professional Assurance

As of January 1, 2008, professional sign off is required on all land remediation and reclamation work on upstream oil and gas sites. Members of six professional organizations are eligible to sign off if they have a minimum of five years of experience in remediation and reclamation as per the Competencies for Remediation and Reclamation Advisory Committee's *Recommendations Report* (AENV 2006) which can be viewed at <http://www.environment.alberta.ca/01972.html> and carry errors and omissions insurance. The professional organizations include:

- Alberta Institute of Agrologists
- Alberta Society of Professional Biologists
- Association of Professional Engineers, Geologists and Geophysicists of Alberta
- Association of the Chemical Profession of Alberta
- College of Alberta Professional Foresters, and
- College of Alberta Professional Forest Technologists.

For all remediation and reclamation work completed after January 1, 2008, a professional must sign the *Professional Declaration for Reclamation Certificate Applications form*. The form must be signed when the following are completed: Phase 1 environmental site assessment, compliance option checklists for drilling waste disposal, Phase 2 environmental site assessment, remediation and confirmatory sampling, and reclamation detailed site assessments.

Evaluation

A number of performance measures were developed for the Upstream Oil and Gas Reclamation Certificate Program. The performance measures are tools to evaluate the effectiveness of the program and measure number of reclamation applications processed, industry compliance with reclamation and remediation requirements and industry consultation with landowners.

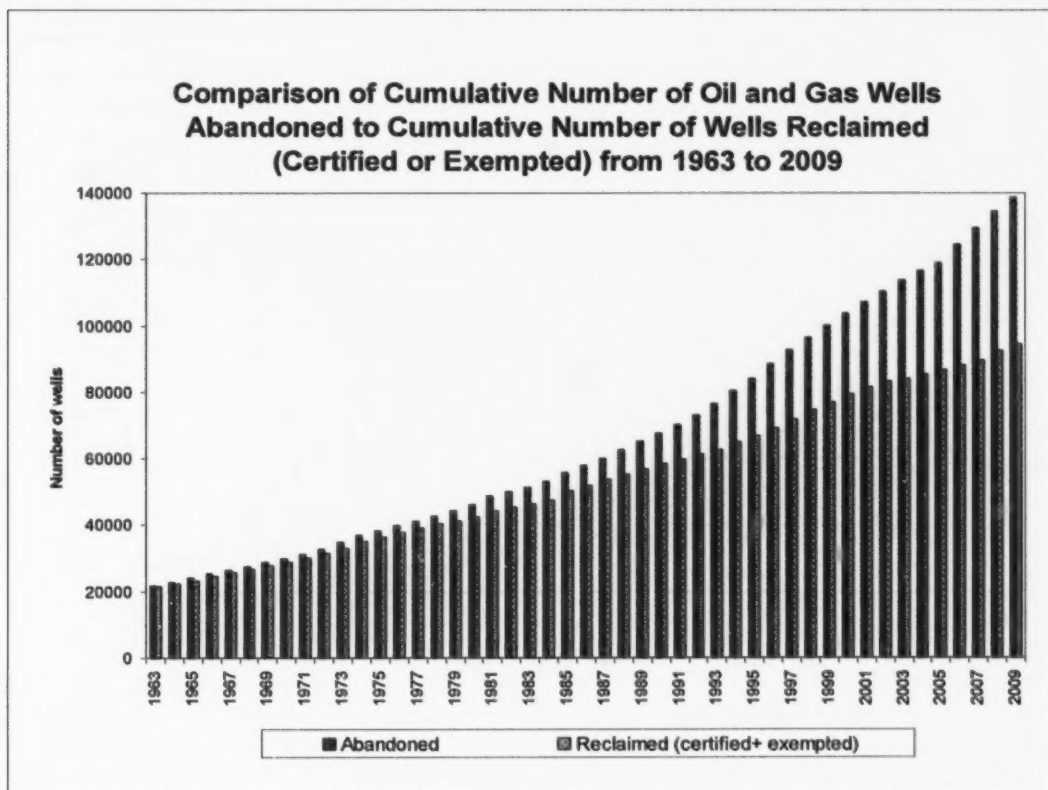
2.2 Performance Measures

Four performance measures will help to evaluate the reclamation certificate program outcomes. The performance measures include:

- 1) Ratio of certified upstream oil and gas wellsites and production sites to abandoned upstream oil and gas sites

This measure compares the number of abandoned upstream oil and gas wells on sites that are awaiting reclamation or submission of the site evaluations to government, to the number of reclamation certificates for private and public land that have been issued by Alberta Environment (AENV) and Alberta Sustainable Resource Development (ASRD).

The program goal is to increase the number of abandoned sites that are reclaimed each year. Reclaiming oil and gas sites in a timely manner, after a well is no longer productive, will help to reduce impacts on the land.



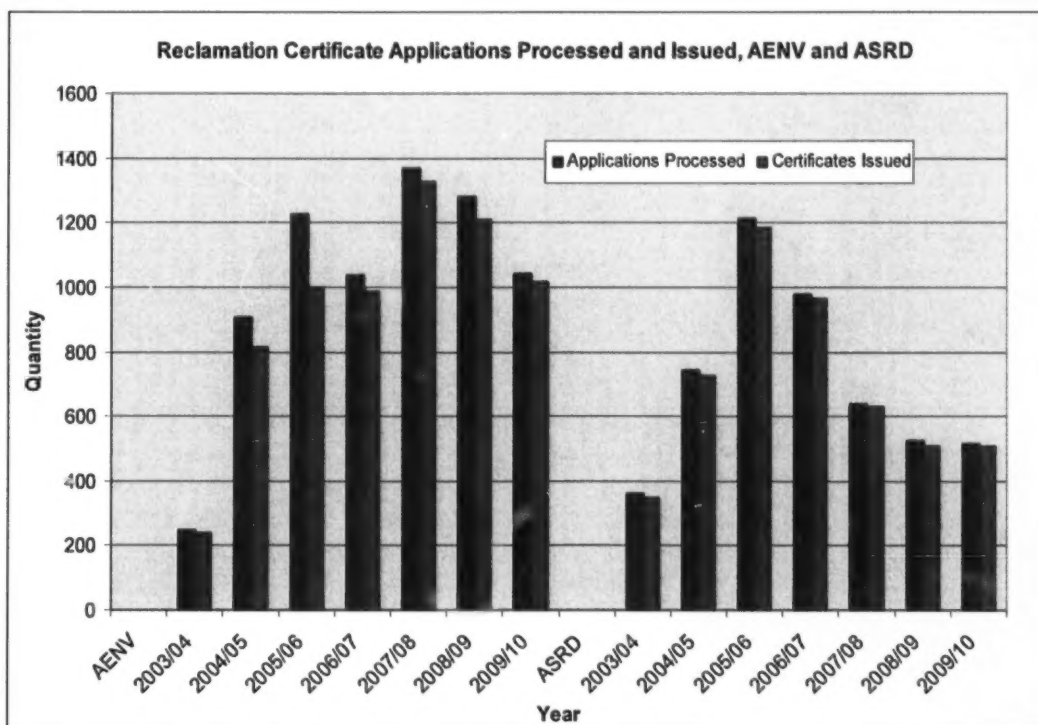
2) Percentage of applications receiving a reclamation certificate

This measure indicates the percentage of reclamation certificate applications that undergo a successful desktop review and receive a reclamation certificate. The reclamation certificate application pass rate indicates the quality of the applications submitted and therefore, the percentage of sites that have achieved Alberta Environment's remediation requirements and reclamation criteria.

The program goal is to work with industry to increase the number of applications that meet the reclamation and remediation requirements necessary to receive a reclamation certificate. Ideally, all applications will meet the necessary standards and provide enough information to be successful in the province's review.

October 1, 2003 to March 31, 2010

Department	Number of applications processed	Number of applications certified	Number of applications refused	Application pass rate
AENV	7110	6591	519	92.7%
ASRD	4982	4868	114	97.7%



- 3) The percentage of randomly selected sites certified following program changes in October 1, 2003 that pass the audit.

This measure indicates the percentage of randomly selected certified sites audited by Alberta Environment and Alberta Sustainable Resource Development that have met the province's reclamation and remediation requirements. The number of audits is based on the number of sites certified in the previous fiscal year. Approximately 15 percent of upstream oil and gas sites that receive a reclamation certificate under the Upstream Oil and Gas Reclamation Certificate Program will be audited. This performance measure provides assurance that certified sites are meeting the province's remediation requirements and reclamation criteria.

The goal of the program is to work with industry to increase the number of oil and gas sites that meet the reclamation and remediation requirements necessary to pass the field audit. Ideally, all audited sites will meet the necessary standards.

Surface Audits: October 1, 2003 to March 31, 2010

Department	Total number of wellsites certified	Number of surface reclamation audits	Number of Certificates upheld	Outcome following audit
AENV	6591	609 (9.2 %)	572 (93.9 %)	Results not Available*: 6 Sites under Investigation: 3 Certificates cancelled: 28
ASRD	4868	788 (16.2 %)	707 (89.7 %)	Results not Available*: 23 Sites under Investigation: 29 Certificates cancelled: 29

* As of March 31, 2010 review of these audit reports had not been finalized.

Contamination Audits: October 1, 2003 to March 31, 2010

Department	Total number of wellsites certified	Number of contamination audits	Number of Certificates upheld	Outcome following audit
AENV	6591	248 (3.8 %)	183 (73.8%)	Results not Available*: 56 Sites under Investigation: 2 Certificates cancelled: 7
ASRD	4868	96 (2.0 %)	43 (44.8 %)	Results not Available*: 45 Sites under Investigation: 17 Certificates cancelled: 1

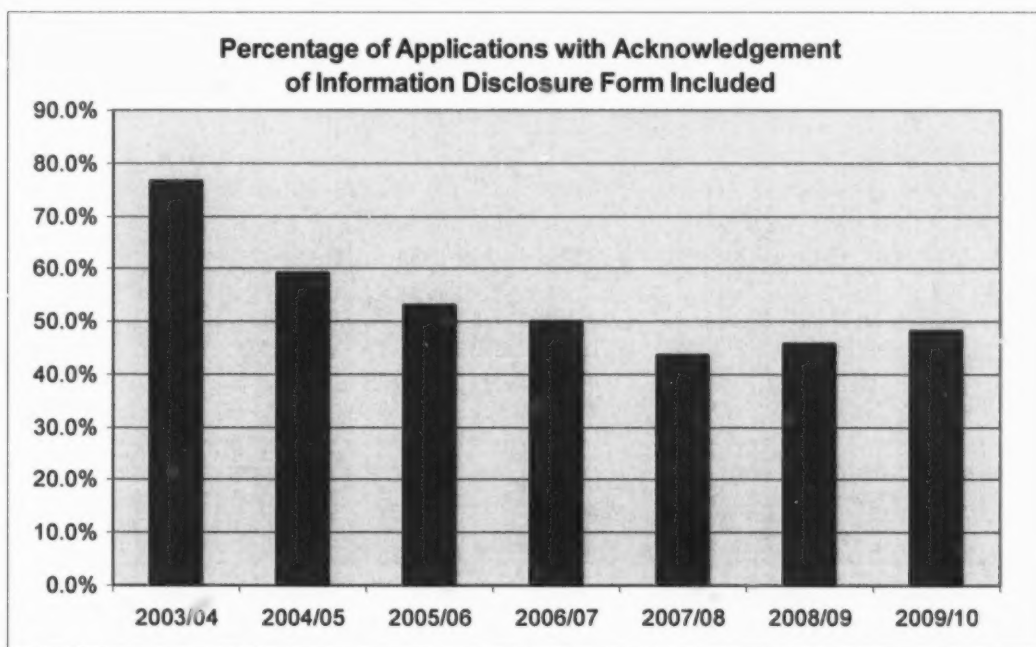
* As of March 31, 2010 review of these audit reports had not been finalized.

4) Percentage of private land applications accompanied by an *Acknowledgement of Information Disclosure* form.

This measure indicates whether industry had been in consultation with private landowners throughout the contamination assessment, remediation, and reclamation processes. Communication between industry and landowners is an important aspect of reclamation success. Landowners frequently want to be informed of remediation and reclamation activities that occur on their land.

This is a program goal specific to private land. Alberta Environment is working to ensure that all private landowners/occupants have an opportunity to review the reclamation certificate application package prior to submission. Applicants must provide evidence that efforts have been made to consult landowners/occupants during the reclamation process. Operators can demonstrate this communication by submitting an *Acknowledgement of Information Disclosure* form voluntarily signed by the landowner/occupant. The landowner/occupant can also indicate whether he/she had the opportunity to discuss with the operator the planning and outcomes of remediation and reclamation work on his/her land.

From October 1, 2003 to March 31, 2010, 50.2% of applications were submitted with an *Acknowledgement of Information Disclosure* form that was completed by the landowners. Of the respondents, 67.9% of the landowners indicated they were involved in the planning of remediation and reclamation work done at their site and 78.1% of the landowners indicated they were provided with results of the remediation and reclamation work on their land.



3. Program Review

As the department that oversees the development of guidelines and documentation for the administration of the Upstream Oil and Gas Reclamation Certificate Program, Alberta Environment is committed to ongoing consultation with stakeholders to improve the program. As the program develops, multi-stakeholder consultation continues to be an important part of evaluation.

Three multi-stakeholder consultation workshops were held between June 2002 and April 2003. In addition, two multi-stakeholder advisory committees were established by Alberta Environment (the Oil and Gas Reclamation and Remediation Advisory Committee [OGRRAC] and the Contaminated Sites Stakeholder Advisory Committee [CSSAC]) to provide guidance in dealing with reclamation and contaminated sites issues.

Recommendations to the Minister were received from the OGRRAC in November 2004. Alberta Environment is currently reviewing and working on implementing several recommendations received.

The Contaminated Sites Stakeholder Advisory Committee submitted recommendations to the Minister in July 2005. Alberta Environment has recently begun implementing the Remediation Certificate Program in response to the committee's recommendations. The program is currently limited to petroleum storage tank sites, but will be expanded to the upstream oil and gas sector in the next phase.

3.1 Oil and Gas Reclamation and Remediation Advisory Committee

The mandate of the OGRRAC, which began its work in June 2003, was to develop recommendations to Alberta Environment on providing a remediation and reclamation program that is scientifically and administratively sound and provides clear accountability for all parties.

Membership selection for OGRRAC was designed to ensure that key stakeholder groups were engaged and that there was a balance of expertise in various relevant disciplines. OGRRAC representation included the following:

- Landowners
- Canadian Association of Petroleum Producers
- Farmer's Advocate
- Alberta Association of Municipal Districts and Counties
- Alberta Energy and Utilities Board
- Alberta Sustainable Resource Development
- Canadian Energy Pipeline Association
- Alberta Environment.

OGRRAC completed its work in November 2004 and issued recommendations to Alberta Environment. The recommendations include legislative and policy changes outlining industry liability period following certification, fees needed to support assurance elements in the program

and the establishment of performance measures. The OGRRAC recommendations report can be viewed at: <http://www.gov.ab.ca/env/protenf/landrec/documents/oggracrecommendationstominister.pdf>

Alberta Environment has reviewed these recommendations and has implemented the following:

- clarifying the role of professional members in the remediation and reclamation of oil and gas sites;
- performance measures for remediation and reclamation;
- reclamation certificate application fee structure for the new program; and
- research on use of stratified remediation at 1.5 m depth.

4. Conclusion

Alberta's Upstream Oil and Gas Reclamation Certificate Program ensures that land used for oil and gas development is restored to a productive state. The program aims to provide timely reclamation and remediation of oil and gas sites while maintaining a strong commitment to environmental assurance. Alberta Environment is responsible for overseeing the development of policies, guidelines and documentation used to administer the program. The department is committed to ongoing improvement of the program. Review of performance indicators and consultation with stakeholders will provide regular evaluation of the program.